

**Robert Fulton Biography Summary:** Robert Fulton (1765 – 1815) was a great American engineer and inventor who developed the first successful commercial steamboat, the North River Steamboat, later known as the Clermont. Robert Fulton traveled to Europe and made a name for himself mostly in France, but switching his allegiance back to Britain, he would also help in the war efforts against Napoleon Bonaparte. Robert Fulton was the first to design a submarine and also a torpedo. By the time he returned to the United States he became involved in steam engines on boats and designed the first commercial passenger carrying vessel. His last forays in inventing would come in the way of a steam driven warship.

**Thomas Edison** was an American inventor and businessman who developed many devices that greatly influenced life around the world. These include the phonograph, the motion picture camera, and a long-lasting, practical electric light bulb. He was a prolific inventor too - holding 1,093 US patents in his name, as well as many patents in the United Kingdom, France, and Germany.

## **Louis Pasteur**

### **Scientific Discoveries**

#### **Bacteria and Germ Theory**

During Pasteur's time, people believed that microbes such as bacteria appeared due to "spontaneous generation." They thought that the [bacteria](#) just appeared out of nowhere. Pasteur ran experiments to see if this was true. Through his experiments he proved that germs (i.e. bacteria) were living things that came from other living things. They didn't just spontaneously appear. This was a major discovery in the study of biology and earned Pasteur the nickname the "Father of Germ Theory."

#### **Pasteurization**

Pasteur used his knowledge of germs to investigate how beverages such as wine and milk were spoiled by microbes such as bacteria and molds. He found that heating up the liquids would kill most of the microbes and allow the beverages to last longer and be safer to drink. This process became known as pasteurization and is still done on many foods such as milk, vinegar, wines, cheese, and juices.

#### **Vaccinations**

Pasteur continued to investigate with [diseases](#). He found that he could make a weak form of a disease that would cause people to become [immune](#) to the stronger form of the disease. He called this weak form a "vaccine." He first discovered this by working with cattle on the disease anthrax. The first vaccine he gave to a human was the rabies vaccine.

#### **Legacy**

Today Louis Pasteur is known as one of the most important scientists in history. His discoveries led to an understanding of microbes and diseases that has helped to save millions and millions of lives. Pasteur is most remembered by the Pasteur Institute which he established in 1887. Today the Pasteur Institute is one of the world leaders in battling infectious diseases

**Joseph Lister Biography Summary:** Sir Joseph Lister (1747 - 1792) was a famous doctor and scientists who became known as the “Father of Antiseptic Surgery”. Joseph Lister was a brilliant man. With the initial idea, developed from advances made in microbiology by Louis Pasteur, Lister developed and improved on his theory of germ transferring through contaminated hands as well as clothing and surgical instruments. His work in developing antiseptics and surgical procedures that eliminated contamination saw the fall in deaths from infections.

### **George Stephenson**

**Biography Summary:** George Stephenson (1781 - 1848) was a talented railway engineer and inventor of the early railway locomotive called the 'Rocket'. George Stephenson was a lowly born man who educated and taught himself mechanical engineering. Once he learned how to repair engines it was the next logical step to see how they could be improved and so he did. Although George Stephenson was not responsible for the original locomotive engine his improvements certainly meant that his design would become the template of future designs over the following one hundred and fifty years.

**Richard Gatling Biography Summary:** Richard Gatling (1818 - 1903) was a prolific inventor during the American Civil War, whose name is remembered due to the his invention of the "Gatling Gun".. A highly self motivating sort of person, he thrived on inventions that would help man in back breaking work. Some of his earliest work was around planning machines which would revolutionize the agricultural industry. When he contracted smallpox he became interested in medicine and attained an MD. On the eve of Civil War Richard Gatling began trying to make the gun a more improved weapon and came up with the Gatling gun.

**James Watt Biography Summary:** James Watt (1736 - 1819) was famous for improving the Newcomen Steam Engine with his Watt Steam Engine which were fundamental to the Industrial Revolution. He was also responsible for developing the idea of horsepower and the 'watt', the SI unit of power, was also named for him. Although James Watt wished to begin business making musical instruments he ended up working for the University of Glasgow where he was asked to repair a model engine developed by Newcomen and although he made the repair the engine still did not work effectively

### **Eli Whitney**

**Biography Summary:** Eli Whitney (1765 - 1825) was an American inventor who would become known for his creation of a cotton gin machine that separated the cotton from the seed and this enabled the more difficult variety of cotton to be mass produced and more profitable. Unfortunately the down side to his invention, although key to the Industrial Revolution and served to reshape the economy of the southern states. However what Eli Whitney had not foreseen was the strengthening of the financial underpinning of the slave trade in the United States.